

Code Girls: The Untold Story of the American Women Codebreakers of World War II

Liza Mundy (Hachette, 2017), 416 pp., notes, bibliography, index.

Reviewed by David A. Foy

When Japanese bombs and torpedoes targeted the planes and ships of the US Navy's Pacific Fleet anchored at Pearl Harbor on Sunday morning, 7 December 1941, the critical value of codebreaking was already common knowledge in select circles. With the US entry into the war, a problem soon arose: the men (primarily) who had done that critical task put on uniforms and headed to theaters of war around the globe. Who would step into the breach and ensure that the vital job of codebreaking would continue? As author Liza Mundy's *Code Girls* ably demonstrates, the answer was, "America's women, naturally!" It would prove to be women who would help rescue a nation "emerging from two decades of disarmament and isolation." (3)^a

For a number of those who would serve as codebreakers during the war, it all began with the receipt of an innocuous "secret letter," initially sent to 10,000 young women in America, which asked them two questions—"Are you engaged to be married?" and "Do you like crossword puzzles?" The letters, from the US Navy—the first of the services to recruit women codebreakers—initially targeted well-to-do, better-educated women, especially those majoring in the sciences, math, and foreign languages and attending such elite colleges and universities in the Northeast as Wellesley, Bryn Mawr, and Mt. Holyoke. Those who responded with the "correct" answers—"No" and "Yes", respectively—were offered a training course in codebreaking; those who passed were given orders to report to Washington, DC, to enter the fascinating and absolutely top secret world of cryptanalysis. Arriving late to the party, the US Army found its fertile ground for the recruitment of female codebreakers in the teaching colleges of the South and Midwest, the first of several differences between the Navy and Army cadres of female codebreakers. One requirement was the same, however—both services were only interested in women who could "keep their lips zipped." (9)

a. Numbers in parentheses refer to the page numbers on which the author's assertions appear.

Of the first 197 women who received letters from the Navy, 74 ultimately made their way to Washington, hired as SP-4 "Assistant Cryptanalytic Aides," and paid the munificent sum of \$1,620 per year. The first of these debutante decoders arrived in bustling Washington, DC in the late spring of 1942, only a few months into the war. Housing was extremely tight, and the women had to move often—sharing bedrooms and bathrooms was *de rigueur*, and even sharing beds was not uncommon. Both the services and the women discovered, however, that the professions to which the latter were often relegated in 1941 America would prove ideal for codebreaking, especially that of schoolteaching. At the time, no barriers prevented women from working in the prestigious field of codebreaking; the phrase "release a man to fight" was often expressed, and the nation was grateful for the women's willingness to do their part—and much more—in the war. By 1945, of the 10,500 codebreakers working at the Army's Arlington Hall facility, for example, 7,000 were women—a quantitative measurement of their value to the war effort.

As Mundy begins her engaging study, readers are introduced to several "government girls"—"g-girls," for short—who spent the war in the "obscure profession" (57) of cryptanalysis—and whose personal lives and war-time labors are the focus of *Code Girls*. Early on, readers make the acquaintance of such legendary female codebreakers as Elizebeth Friedman and the legendary "Miss Aggie," Agnes Meyer Driscoll, one of the 11,000 women who served as yeomen codebreakers during World War I, thanks to a loophole in the Naval Reserve Act of 1916. During the interwar years, the concept of engaging women in military service predictably fell out of fashion, but after Pearl Harbor, the Army chief of staff, Gen. George Marshall, was an early advocate. In May 1942, the Women's Auxiliary Army Corps bill was signed, allowing the WAACs (Womens Auxiliary Army Corps, WACs by 1943) to render an important service, albeit at a lesser salary than men and only in an auxiliary capacity, at least initially. In contrast, their Navy counterparts—WAVES—

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became US Naval Reserve officers once their training was complete and were committed to serving for the duration of the war plus six months, although the unfortunate public notion that they were actually “camp followers” in uniform persisted.

It was all very heady stuff—living and working in the nation’s capital, making lifelong friendships, sharing hardships, knowing but unable to tell anyone the critical role they were playing in the war effort. Yet, as Mundy makes clear in the numerous personal examples she relates, any tendency to view this whole adventure as nothing but a frivolous lark was tempered by the fact that lives were at stake daily, a realization which lent a certain grimness to the heavily-guarded code rooms—especially so when the women were agonized to learn that husbands or brothers or fiances were missing or dead but they could tell no one. In most cases, the women suffered little angst in the knowledge that their daily work directly resulted in air raids and naval sorties that brought death and destruction to the foes’ women and children. As the author notes, “The women were living life in the moment, with little idea what the future held.” (212)

The “wartime labors” of codebreakers had begun prior to America’s unplanned entry into World War II. As early as 1940, US Navy codebreakers were working on Japanese Navy ciphers, while their Army counterparts concentrated on military and diplomatic messages in Italy, Germany, Japan, and Mexico. But early on in the war Germany and Japan alike severely challenged the United States, especially on the high seas. The Imperial Japanese Navy controlled one-fourth of the vast Pacific Ocean area in 1941 and had not lost a naval battle in 50 years, while the *Kriegsmarine* (German Navy) had dispatched 170 U-boats—each equipped with an Enigma coding machine—along the US East Coast, rendering the Battle of the Atlantic “a battle of codebreaking prowess.” (152–53) Although it took some time, codebreaking did make its impact felt, first paying dividends in the May 1942 Battle of the Coral Sea, technically a draw; by contrast, the Battle of Midway a month later, was a clear-cut US victory, thanks in large part to codebreaking. Naval commanders who had had little patience previously for the laborious, time-consuming process became advocates—commander-in-chief US Pacific Fleet Admiral Nimitz characterized the skill as a “priceless advantage” at Midway.

The Army’s codebreaking enterprise at Arlington Hall Station tended to be more freewheeling than the Navy’s, with more civilian than military participation. However, the Army effort was no less critical—as proof, Mundy relates the accomplishments of 22-year-old Ann Caracristi, the physician’s daughter from New York and English major in college who nevertheless had “the mind of an engineer.”(231)^a Caracristi and colleague Wilma Berryman first cracked the Japanese Army code, which provided critical insight into the loads being carried all over the Pacific by *marus*, the freighters that brought nearly everything to Japanese troops dispersed throughout the Pacific. The breaking of this code by Berryman and Caracristi, the renowned future deputy director of the National Security Agency, contributed directly to the success of Operation Cartwheel, Gen. Douglas MacArthur’s “island hopping” campaign in the Pacific Theater. Arlington Hall also engaged in “offensive” cryptography: on the eve of D-Day, a section at Arlington Hall engaged in “protective security,” using William Friedman’s SIGABA encoding machine to create the fake message traffic that convinced the Germans that General Patton’s fictional First US Army Group (FUSAG) was planning to come storming ashore at Calais.

While the hub of the nation’s codebreaking efforts was clearly the metropolitan Washington, DC area, other sites were critical, too—such as the former National Cash Register facility in Sugar Creek, Ohio, which became the home of 600 Navy women working in Building 26, soldering wheels for the new generation US-built *bombe* decoding machines, to assist their British ally. These new high-speed *bombes* were ready by September 1943 and were running 24 hours a day by the following year, focused on cracking the codes produced by the three-rotor Enigma machines that the German army and air force used, since the U-boat threat had been blunted. According to a US Navy memo, these *bombes*—and the young women who constructed and operated them—particularly proved their worth on D-Day, when they provided a “considerable gain in intelligence during a very critical phase of the invasion of France.” (320)

These female codebreakers first learned of the end of the war but could tell no one, at least until President Truman announced it formally several hours later. With the advent of peace, some remained in the codebreaking

a. Ann Caracristi died in January 2016.

ranks, but most returned to their former lives, especially those who now had families. As Mundy puts it, “Motherhood was the dividing line between brilliant women who stayed in the work, and those who did not.” (380) The same US government that a few years before had eagerly recruited these women to leave their classroom and dorms for the scintillating world of cryptanalysis now just as resolutely sought to propel them into the kitchens and nurseries of America. This campaign included propaganda-style films that cajoled women to “leave their jobs, return home, and take care of their families.” Their husbands and brothers needed jobs and their patriotic duty now was to make way for them. While most abided by that request, the sudden departure from a most special workforce left a sizable gap, which is why some, missing their former lives and burdened with children and housework, began a round-robin letter-writing campaign, simply to keep in touch. While they would never forget their service, they could not talk about it either, at least for the foreseeable future, and needed the social outlet they had earlier taken for granted.

Mundy, a senior fellow at New America, a think tank and civic enterprise, is also a former reporter, and she has used her skills to make *Code Girls* a compelling read. Although this is her first book about intelligence and codebreaking, she is generally at home discussing such topics and does an especially good job explaining the “hard-ware” of codebreaking and how the machines operated. Her expertise shows in her ability to take the convoluted details of codes and ciphers and make them understandable to readers, giving them an enhanced appreciation of the intricate and demanding work these talented young women did on a daily basis that had such profound effects. As she accurately writes, “the military and strategic importance of their work was enormous.” Her writing of this largely untold story was made possible by the discovery of a cache of documents at the National Archives and Records Administration, untouched for 70 years, as well

as 55 oral histories in the Library of Congress, interviews with 20 surviving codebreakers, and such novel archival sources as college yearbooks.^a She also has a knack for providing readers with extraneous but interesting tidbits, such as the fact that 23 pairs of brothers died in the Pearl Harbor attack and that, regrettably, no oral history exists for Agnes Meyer Driscoll. Readers will appreciate that she brings her subjects’ lives up to the present and will find her chapter titles engaging. Who could resist reading one entitled “Pencil-Pushing Mamas Sink the Shipping of Japan”?

Criticisms of the book are few and minor. On one occasion, one codebreaker’s hometown—Beaufort, Mississippi—becomes “Bourbon” further down the same page (129) and the 1945 atomic bombing of Nagasaki was on 9 August, not 12 August. The one statement throughout the book most likely to engender conversation—if not ire—is her reference to the Battle of the Bulge as “one of the war’s worst intelligence failures,” a broad-brush characterization few historians would ascribe to, perhaps giving such an “honor” instead to the Pearl Harbor attacks or other candidates.

Nevertheless, the book is a very engaging read on an important topic, a welcome reminder that not all the allied codebreaking efforts occurred at Britain’s Bletchley Park. While the current social and work environment for women in general has changed dramatically and markedly improved since World War II, it is well to remember that progress on this front has been uneven, to say the least. *Code Girls* pays tribute to an unsung group of patriotic Americans who, more than seven decades later, are just now receiving their due. The book is a welcome addition to literature on the subject.

a. Ann Caracristi elaborated on her wartime experiences in this Library of Congress oral history effort, *Experiencing War: Stories from the Veterans History Project*. Available at <https://memory.loc.gov/diglib/vhp-stories/loc.natlib.afc2001001.30844/>



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